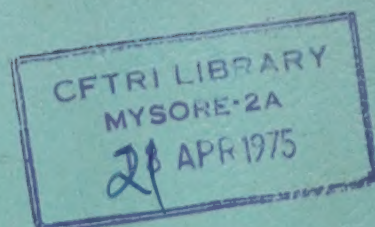


Philippine Abstracts



A quarterly classified summary of the latest Philippine publication in the field of science and its applications (UDC 5 and 6)

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PHILIPPINE ABSTRACTS

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Vol. 11, Nos. 3-4

July-December 1970

CHEMISTRY

546.76:544.62

Chromium. Ion exchange.

142. Studies on a dimeric chromium (III) complex. P. J. Fawcett and L. O. Ungab (Dept. of Chemistry, University of San Carlos, Cebu City). *Philippine Scientist*, ser. F, 1969, v.6, p.65-74. graph, tables. 15 refs.

Results showed that the charge/chromium atom, charge/species and visible spectroscopic measurements are consistent with the previous studies of the complex as μ -hydroxo- μ -sulfatooctaquo-dichromium (III) ion. Spectroscopic study of the decomposition of this complex in acid solution showed that only the hexaquo-chromium (III) ion is produced. The magnetic moment of the complex was found to be 3.14 B.M. suggesting that the subnormal magnetic moment resulted from the presence of a bridging sulfate ligand.

548.1:681.142

Crystallography - Neutron diffraction studies.

Computers - Programming.

143. A program to calculate data for two-dimensional single crystal experiments. A. G. Garcia and Q. O. Navarro (Philippine Atomic Energy Commission, Manila). Manila, Philippine Atomic Energy Commission, Feb. 1969. 2 ℓ . 19p.

diagr. 3 refs. [PAEC (D) 693]

The program is designed for two-dimensional x-ray or neutron diffraction experiments with single crystals. The incorporation of a transformation matrix calculates, for any crystal system, data for any zone axis.

548.73:539.125.5.04

Crystallography - Neutron diffraction studies.

144. A neutron diffraction study of the crystal structure of sodium thiosulphate pentahydrate, $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$. V. M. Padmanabhan, Q. O. Navarro, A. Garcia, L. Karsono, Lin Shi Chien and Il-Hwan Suh (Philippine Atomic Energy Commission, Manila). Manila, Philippine Atomic Energy Commission, Jan. 1969. 2 ℓ . 13p. tables, illus. 7 refs. [PAEC (D) 691]

From the neutron intensity data of about 315 reflections, the positions of all the hydrogen atoms were determined by F_0 and $(F_0 - F_c)$ synthesis. The hydrogen bond formation inside the crystal is discussed.

GEOLOGY

551.22:550.83/.84

Prospecting - Geochemical methods.

Prospecting - Geophysical methods.

145. Geochemical and geophysical surveys in Atok area, Itogon, Benguet Province. Dominador H. Almogela (Geolo-

gist, Bureau of Mines, Manila). *Journal of the Geological Society of the Philippines*, Sept. 1969, v.23, no.3, p.151-162 graphs, illus. 2 refs.

Results showed that the vein-type deposits in the area responded as magnetic lows and geochemical highs. By correlation of the survey results, the possible extensions and splits of the vein systems in the Baguio Mineral District can be deduced.

551.244(914)

Landslides.

146. Slope stability along Kennon Road.

Armando E. Paderes (Geologist, Bureau of Mines, Manila). *Philippine Mining Journal*, Nov. 1969, v.11, no.11, p.26, 28, 30-32.

The physico-chemical and mechanical characteristics of the soils and rocks in the area were investigated. Data revealed that the causes of most landslides are seepage pressure of downward percolating water, serious cutting of the toes of the slopes, and mining operations.

Preventive treatments to minimize the landslides, floods and other natural phenomena on the road are briefly discussed.

551.4:628.13 628.13:624.131.6

Reservoirs. Geological research.

147. Notes on the geological study of the Mount Sto. Tomas water reservoirs, Baguio City. Herminio P. Lukban. *Journal of the Geological Society of the Philippines*, Dec. 1969, v.23, no.4, p.203-206. map, table.

The study showed that the seepage-problem is in the southwest portion of the reservoir basin. The section is dissected by fault structures, locally striking north-northeast and suggesting sinistral displacement. Seepage may be attributed to: 1) the presence of numerous open fractures or joints; 2) conglomerate-pyroclastic series; and 3) the 4-m keys of the dam without any cut-off wall. It is recommended that water pressure tests be made every 5 ft of penetration.

553.3:550.83

Geological surveys - Philippines.

Iron deposits - Exploration.

148. Geology and magnetic survey of San Isidro Iron prospect as correlated to Larap Iron deposit, Jose Panganiban, Camarines N. Tobias R. Peralta (Mining Engineer-Geologist, Philippine Iron Mines, Inc., Larap, Camarines Norte). *Philippine Mining Record*, March 1969, v.3, no.5, p.10-12, 14-15. map, diagr. 9 refs.

The geology of San Isidro is essentially similar to Larap and San Rafael areas. The predominant rock found is the Larap volcanics, overlying the Universal formation with angular discordance. Aeromagnetic survey conducted by Hunting Geophysics, Ltd. isolated intense magnetic anomalies, however, diamond drilling yielded negative results. The anomaly which needs further laboratory paleomagnetic research work was attributed to extreme remanent magnetization imparted in the rocks by lightning.

553.43:550.83/.84

Geological surveys. Geophysical research.

149. The geological and geophysical exploration of Lubang Island, Mindoro Occidental. H. S. Herzeg, L. C. Toquero, N. F. Foronda, Jr. and A. V. Miranda (Benguet Consolidated, Inc., Dagupan City). *Philippine Mining Record*, April 1969, v.3, no.6, p.26-33. maps. 4 refs.

Geological survey revealed that the area is essentially a metamorphic region with schists and gneisses as the dominant rock types. Results of geophysical-geochemical survey do not justify additional geophysical work or a more expensive drilling program. It is believed that even with the occurrence of graphitic schists, the anomalies could indicate widespread low grade mineralization of little economic interest. On the other hand, if the anomalies were caused by sulfide mineralization at depth there are at present no suitable geophysical methods to distinguish graphites from sulfides.

BIOLOGY

576.8.095

Coconut water. Growth promoting substances.

150. Studies on the growth-factor present in coconut water. Lolita B. Serano, Paz T. Mina, Leticia B. Gomez, Bienvenido C. Sison, Jr. and Augusto L. Tenmatay. *Philippine Journal of Science*, Sept. 1967(1969), v.96, no.3, p. 229-238. graphs, tables. 10 refs.

The growth-promoting activity of coconut water was determined by com-

paring the growth rate of *Aspergillus niger* on media containing pure coconut water from young and mature nuts, on standard Czapek's medium and on media containing the Czapek's nutrients dissolved in the young and mature coconut water. Results showed that: 1) the mold grows on pure coconut water alone and in a faster rate than on standard Czapek's medium; 2) the mold grows at a faster rate than on a medium containing the basic Czapek's ingredients dissolved in coconut water; 3) the coconut water from young nuts contains more growth-promoting substances than water from mature nuts; 4) growth-promoting factors are heat, acid and alkali stability, and the dialysis of coconut water; and 5) the growth-factor is insoluble in C_6H_6 , CCl_4 , $CHCl_3$ and $CH_3C_6H_5$ and can be extracted by $(C_2H_5)_2O$, CH_3COCH_3 and C_2H_5OH .

ZOOLOGY

591.69-6-51

Vertebrates - Parasites.

151. Endoparasites of certain Philippine land vertebrates. Einstein M. Laviña and Angel C. Alcala. *Silliman Journal*, Second Quarter 1969, v.16, no. 2, p.137-148. tables. 9 refs.

Examination of 294 animals belonging to 104 species of vertebrates showed that 15% were infected with flukes, 30% were found with tapeworms and 19% yielded roundworms.

591.69-9.323.4-51

Angiostrongylus cantonensis. Lungworms.

152. Further observations on Angio-

strongylus cantonensis in the Philippines. Neil C. Westerlund and Michael Chamberlain. *Acta Medica Philippina*, ser. 2, July-Sept. 1969, v.6, no.1, p. 3-11. map, tables, illus. 14 refs.

Of the 215 rats examined including *Rattus mindanensis*, *R. everetti*, *R. lutiventris*, and *R. norvegicus*, 10 were found positive for *Angiostrongylus cantonensis*. Maturation of larvae were demonstrated in 15 rats. *A. cantonensis* was also found in rats fed with infested snails showing that the continuing life cycle of this parasite is possible through them.

595.1:635.3/.5(914)

635.3/.5(914):576.8

Vegetables - Bacteriology.

153. The incidence of ascaris ova in vegetables commonly eaten raw in the Philippines. Roseli Ocampo-Paus and Arcangel B. Agor (National Institute of Science & Technology, Manila). *Philippine Journal of Science*, June 1967 (1969), v.96, no.2, p.177-189. plates, tables. 10 refs.

16 kinds of vegetables from different places were used in the study using the zinc-sulfate-flotation-technique. Result showed the presence of *Ascaris lumbricoides* ova on all vegetables studied. This indicates that vegetables are agents in the effective transmission of this parasitic worm and ova. Some measures to control the spread of ascaris ova are given.

595.42:591.3

Mites - Biology.

154. Laboratory observations on two laelaptid mites, *L. nuttali* Hirst and

***L. echidninus* Berlese.** Alicia M. Gonzales and Nelia P. Salazar (Institute of Hygiene, University of the Philippines, Manila). *Acta Medica Philippina*, ser. 2, July-Sept. 1969, v.6, no. 1, p.18-19. 10 refs.

Studies showed that the developmental period of *L. nuttali* is 22-29 days at 28°C and 90% R.H. and *L. echidninus*, 6.9.-20.5 days. The longevity of well-fed *L. nuttali* is about 75 days and of starved mites, 13 days; *L. echidninus* survived for 23-27 days. Both species preferred sheep blood.

595.73(043)

Termites - Control.

155. Common species of termites occurring in buildings and houses under treatment by the Republic Exterminating Company in the Greater Manila areas. Froilan H. Tanghal. Victoneta Park, Malabon, Rizal, Araneta University Foundation, Oct. 1969. 3l. 22p. 2l. plates. 8 refs. (Thesis. B. S. in Agriculture, Major in Entomology)

Of the 7 species of termites studied, *Cryptotermes cyanocephalus* Light and *C. dudleyi* Banks were found to be of the drywood type; *Nasutitermes luzonicus* (Oshima), *Microcerotermes losbañosensis* (Oshima) and *Macrotermes gilvus* Hagen, are subterranean. The extent of damage caused by these termites and their control are discussed.

595.73:591.5

Termites.

156. Some observations on the ecology and behavior of *Coptotermes vastator* Light (Rhinotermitidae: Isoptera). Mamerto L. Garcia. *Wood Preservation*

Report (Forest Products Research & Industries Development Commission, College, Laguna), July-Aug. 1969, v.4, no.4, p.7-10. 3 refs.

The behavior of termites (*Coptotermes vastator*) under laboratory and field conditions was observed. It was noted that the part of a colony when isolated from the central nest survived of 100/petri dish, the insect survived longer than those in groups of 50, 30 and 20.

595.768:591.3

Weevils.

157. Preliminary results on the biology of broad-nosed weevil, *Metapocyrtus impius* (Erichson) [Curculionidae, Coleoptera], attacking citrus. L. V. Moyano and A. E. Bigornia (Bureau of Plant Industry, Manila). *Philippine Journal of Plant Industry*, Third-Fourth Quarter 1967(1969), v.32, nos.3-4, p.177-187. graph, plates, tables. 5 refs.

The various instars of the life stages and feeding habits of *Metapocyrtus impius* as observed in the Guinobatan Experiment Station (Albay) are described. Field survey showed a sex ratio of 1:5 male to females. No significant difference between male and female larval and pupal periods of development was noted.

595.78:591.3

Moths.

158. The mariposa, *Attacus atlas* Linnaeus: a life history study. Lolita G. Geronimo (Dept. of Zoology, University of the East, Manila). *Philippine Biota*, Nov. 1969, v.4, no.2, p.23-31.

table, illus. 8 refs.

The atlas moth passes through 6 larval and 2 preimaginal instars. The pre-pupa (1st preimaginal instar) follows the 6th larval instar without molting. The pupa (2nd preimaginal instar) is formed after the 6th molt. The imago or adult emerges after the shedding of the pupal case of the 7th molt. The moth's postembryonic development lasts from 61 to 79 days.

598.2:591.5

Birds - Food and feeding.

159. The foraging deployment of velvet-fronted nuthatches and elegant titmice. Rodolfo B. Gonzales and Angel C. Alcala (Silliman University, Dumaguete City). *Silliman Journal*, Fourth Quarter 1969, v.16, no.4, p.403-408. tables. 2 refs.

Observations showed that in mixed flocks, the Philippine velvet-fronted nuthatches forage on the trunks and proximal parts of the branches, while the titmice forage on the distal parts of the branches. The species change its foraging deployment when alone in the mixed flocks and ranges on all parts of the feeding trees. Apparently, both species evolved feeding relationships permitting them to exploit the environment maximally.

598.2:591.9

Birds, Geographical distribution of.

160. The birds of small islands off the eastern coast of Panay. Angel C. Alcala and Warlito M. Sanguila (Silliman University, Dumaguete City). *Silliman Journal*, Fourth Quarter 1969, v.

16, no.4, p.375-383. graph, tables. 2 refs.

A study on the bird population in Panay was conducted in 1969 to avoid their extinction as a result of the continuing destruction of the forests. The primary forest species, *Dicaeum pygmaeum*, was observed in 3 islands explored; *Halcyon winchelli*, in Sicogon; and *Leucotreron leclancheri* in Calagna-an and Sicogon. The 4 species which have become extinct by the destruction of natural vegetation are *Phapitreron leucotis* (pigeon), *Penelopides panini* (hornbill), *Dendrocopus maculatus* (woodpecker) and *Pachycephala plateni* (whistler)

MEDICAL SCIENCES PHYSIOLOGY

612.015.6(=914)
Riboflavin.

161. Studies on the nutrient requirement of Filipinos. III. Riboflavin requirement of some adult Filipinos on controlled intake. Priscilla I. Caasi, Gloria A. Camcam, Anita M. Marzan, Teresita C. Eva and Pagasa G. Beltran (National Institute of Science & Technology, Manila). *Philippine Journal of Science*, Sept. 1967(1969), v.96, no.3, p.273-293. graphs, tables. 26 refs.

Observations were made on 25 healthy female subjects maintained on a basal diet of natural foods with riboflavin intake of 0.4-2.9 mg/day for 8-20 days. Protein intake was 42-71 g/day, 40% of which was of animal origin. It was found that the minimum riboflavin requirement for males was 0.0113 mg/g protein or 0.72 mg riboflavin/day and

for the females, 0.012 mg/g protein or 0.54 mg riboflavin/day.

612.015.6:616-053.2

Vitamins - Metabolism. Vitamins
Analysis.

162. Excretion of some water-soluble vitamins among pediatric cases in the Philippine General Hospital. Carmencita B. Salvosa and Victor O. Tantengco (Institute of Hygiene, University of the Philippines, Manila). *Acta Medica Philippina*, ser. 2, p.41-37. tables. 13 refs.

A study of 96 pediatric cases suffering from various disorders showed that urinary excretion values of water-soluble vitamins did not significantly differ from the controls or institutionalized levels. Specific cases with suggestive signs of deficiencies excreted very low values of the vitamins. On the basis of the laboratory and clinical data, those admitted cases were of vitamin and protein deficiencies.

612.12:616-053.1(=914)
Hemoglobin - Analysis.

163. Determination of hemoglobin level in full term Filipino newborns: factors that may influence this level. Asuncion V. Medina, Vicenta Galapon-Marquez and Arturo Librea (Philippine General Hospital, Manila). *Journal of the Philippine Medical Association*, Oct. 1969, v.45, no.10, p.615-621. graphs, tables. 5 refs.

The mean hemoglobin level as obtained in 185 infants, aged 36-42 wks, was 16.24 ± 0.1487 g%. It was noted that there is a direct relationship between maternal and infant hemoglobin

level being maintained at the expense of the mother. Hemoglobin level is not affected by the manner of delivery. There seems to be an indirect relationship between the hemoglobin level and age of the infant.

PHARMACOLOGY

615.72:612.015

Isoniazid.

164. Metabolic effects of isonicotinic acid hydrazide. Leonor Rivera-Calimlim (University of Santo Tomas Research Center, Manila). *Acta Manilana*, ser. A, July 1969, v.5, no.3, p.3-21. tables. 16 refs.

Experiments showed the following results: 1) the hypoglycemic effect of INH was comparable with that of tolbutamide; 2) INH and tolbutamide produced higher reduction in the blood sugar concentrations than INH or tolbutamide alone; and 3) INH increased glycogenesis, blood sugar, and plasma free fatty acid.

615.72:616-053.2(±914)

Isoniazid - Therapeutic use.

165. Is isoniazid (INH) judiciously prescribed among Filipino children? Fe del Mundo and Juana Yap. *Philippine Journal of Pediatrics*, Sept.-Oct. 1969, v.18, no.5, p.273-279. tables. 6 refs.

A study among 370 children was undertaken by the Far Eastern University Hospital (Manila). Results showed that 73% of the patients received INH without prescription and the varied indications were mostly unrelated to tuber-

culosis. Thus, INH is not judiciously used and that possibly its reputed innocuousness is the reason for such practice.

615.783:618.6:616-009.7

618.6:616-009.7:615.783

Analgesics and antipyretics - Therapeutic use.

166. Clinical evaluation of Sosegon in normal post-partum patients. Sol Manarang and Gloria T. Aragon (Dept. of Obstetrics and Gynecology, Philippine General Hospital, Manila). *Philippine Journal of Surgical Specialties*, July-Aug. 1969, v.24, no.4, p.159-167. tables. 5 refs.

A total of 152 patients with various postpartum pains were treated with Sosegon (Win 20,228). The analgesic gave pain relief in 84% of the cases. In some cases, side effects were observed 2 hrs after administration such as vertigo, weakness, cold clammy perspiration, nausea and in few cases, vomiting. The incidence and severity of side effects varied directly with the dosage given.

DISEASES. PATHOLOGY. SURGERY

616-006:617.51

Mucocele.

167. Medical approach to a large Mucocele producing ocular displacement or obliterative frontal sinusotomy with bone graft. Cosme Ildefonso N. Naval. *Philippine Journal of Ophthalmology and Otolaryngology*, July-Dec. 1969, v.21, nos.3-4, p.45-50. illus. 6 refs.

A case of recurrent mucocoele in the fronto-ethmoidal region of a 19-yr-old Filipino male is presented. Grafting with the patients' living bone into the sinus to prevent the regrowth of the mucocoele proved successful. Postoperative checkup after 1 yr showed no apparent rejection, deformity in the sinus area, or recurrence of the mucocoele.

616-006.6:616-07 616-006.6:616-085
Neoplasms - Diagnosis. Neoplasms
Therapy.

168. The cause, early detection and control therapy of cancer. Manuel D. Navarro (Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, July-Aug. 1969, v.24, no.4, p.213-225. graph, tables, illus. 36 refs.

The trophoblastic thesis of cancer, which states that trophoblast is the common component of cancer malignancies, is briefly discussed. The methods for the early detection are: 1) X-ray or isotopic studies; 2) biopsy; 3) enzyme studies; and 4) HCG-Immuno assay or Cancer Immunological Test (C.I.T.). The control of this disease through chemotherapy has been found successful.

616-007-089:616-053.1
Infant, Newborn - Surgery.

169. Surgical emergencies in the newborn. P. Villarica and Isabel Franco (Jose Fabella Memorial Hospital, Manila). *Philippine Journal of Pediatrics*, Sept.-Oct. 1969, v.13, no.5, p.257-272. table, illus. 20 refs.

A total of 112 cases of congenital

malformations seen during a 5-yr period with an average annual delivery of 75,000 are reported. The importance of early and accurate diagnosis and prompt successful surgical intervention are emphasized. Survival rate in the series was 48.2%.

616-008:546.857 616.15:547.857
Gout - Diagnosis. Uric acid - Blood.

170. Genetics of gout and hyperuricemia: an analysis of twenty-five Filipino families. Pelagia S. Bayani-Sioson, Racquel G. Safra and Ligaya Beltran. *Acta Medica Philippina*, ser. 2, Oct.-Dec. 1969, v.6, no.2, p.48-57. graph, map, table, illus. 10 refs.

The level of blood uric acid of the index cases and their sib, children and other relatives did not differ between the sexes. Pedigree analysis of some of the index cases showed a pattern of "incompletely dominant" trait.

616-089.5
Anesthetics, Local.

171. Benadryl as a local anesthetic. Ernesto A. Palanca. *Santo Tomas Journal of Medicine*, July-Aug. 1969, v.24, no.4, p.232-241. tables. 3 refs.

A review of 25 cases operated on at the University of Santo Tomas Clinical Division (Manila) showed the successful use of Benadryl as an anesthetic agent in local infiltration anesthesia. Only 1 case complained of fainting sensation and drowsiness, but no residual ill effects were observed after 4 hrs sleep.

616.15

Blood protein disorders.

172. Studies on the blood seromucoids.

R. P. de Leon, F. C. Garcia, V. M. Manipol and A. E. Buendia (Cancer Research Institute, Philippine General Hospital, Manila). *Proceedings of the National Science and Technology Week*, July 15-21, 1968(1969), pt.3, p.145-160. graphs. 10 refs.

Results of the study showed that the seromucoid level of normal individuals ranges from 4 to 6 mg%; patients with confirmed malignancies, above 6 mg%; and those with non-malignant diseases, 4-8 mg%. Values of 10 mg% were observed in cases where the gastrointestinal system and other deep seated organs were involved. Separation and subsequent assay of these seromucoids gave patterns or profile with reproducible and characteristic activity peaks.

616.24-002.5:616-053.2(914)

Tuberculosis in childhood - Occurrence.

173. Childhood tuberculosis in the Philippines. M. Pardo de Tavera. *Philippine Journal of Pediatrics*, Aug. 1969, v.18, no.4, p.218-221.

Tuberculin testing surveys in Manila showed that 50% of public school children at 10 yrs old have been infected. Primary, progressive primary and re-infection stages were noted, with the latter stage being more common in children above 10 yrs old.

616.379-053.2(=914)

Diabetes mellitus, Juvenile.

174. Juvenile diabetes mellitus among Filipinos. II. Clinical aspects. Cosme R. Cagas. *Philippine Journal of Pediatrics*, Aug. 1969, v.18, no.4, p.193-203. tables, illus. 29 refs.

An analysis of 8 cases of juvenile diabetes mellitus in Filipinos is presented. Some of the major symptoms were loss of weight, polydipsia and polyuria; a few cases had ketoacidotic episode. Insulin was needed by all the patients. The socio-economic aspect in the study and management of patients and their families is discussed.

616.5-002.4

Skin ulcer.

175. Conservative management of cutaneous ulcers. Jose M. Pujalte (National Orthopedic Hospital, Quezon City). *Family Physician*, July-Sept. 1969, v.7, no.3, p.11. table. 3 refs.

A total of 142 patients with various cutaneous ulcers were successfully treated with topical applications of Plasmidorn. Results indicate that medical debridement with the use of lytic agents has a definite role in the conservative management of cutaneous ulcerations.

616.61-07

Kidney failure, Acute.

Kidney failure, Chronic.

176. Renal failure. 1. Medical aspect. Alberto Daysog, Jr. (Faculty of Medicine and Surgery, University of Santo

Tomas, Manila). *Family Physician*, July-Sept. 1969, v.7, no.3, p.1-3.

616.61 - 089

Kidney calculi - Surgery.

A review of 33 cases of renal failure showed that the acute tubular necrosis is the most common cause, followed by acute pyelonephritis and acute glomerulonephritis. In the cases studied, urinary Na varied from 1 to 3 g NaCl/day. Management includes high-carbohydrate, low-salt and restricted-protein diet. Na is generally limited to less than 3 g/day.

616.61-089(914)

Kidney - Transplantation.

177. Kidney transplantation in the human: first report from the Philippines. Enrique L. Esquivel, Jr., Manuel S. Tayao, Arcadio F. Ortiz, Jr., Enrique M. Garcia and Erwin P. Gomez. *Philippine Journal of Surgical Specialties*, July-Aug. 1969, v.24, no.4, p.182-191. graphs, illus. 6 refs.

A case of cadaveric kidney transplantation in a 22-yr-old male is presented. Due to the brief postoperative course, it remained speculative whether the homograft functioned or not; or whether it would have completely recovered from the tubular necrosis. However, post-mortem studies showed the kidney homograft to be remarkably viable. Cadaveric kidney transplantation is beset by 2 major difficulties: 1) the likelihood of lesser degree of histocompatibility between donor and recipient; and 2) the variable degree of damage to the donor kidney through trauma or ischemia.

178. Renal failure. 2. Surgical aspect. Pedro M. Lantin, Jr. (Dept. of Urology, St. Luke's Hospital, Quezon City). *Family Physician*, July-Sept. 1969, v.7, no.3, p.4-8.

Three surgical cases of renal failure due to calculi are discussed. It is believed that below the age of 40 yrs, renal failure due to calculi should be operated on to preserve whatever nephron units are left in the kidney. In cases of renal failure due to enlargement of the prostate among the aged, preliminary urinary diversion is advised followed by surgery as soon as the kidney has been decongested.

616.72:615.75

Arthritis - Drug therapy. Triamcinolone hexacetonide - Pharmacodynamics.

179. Clinical evaluation of the intra-articular use of triamcinolone hexacetonide. Tito P. Torralba (Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Journal of the Philippine Medical Association*, Oct. 1969, v.45, no.10, p.622-626. 10 refs.

Excellent responses were obtained with intra-articular injections of triamcinolone hexacetonide in 32 patients with rheumatoid arthritis, degenerative joint disease, ankylosing spondylitis and gouty arthritis. Side effects were occasional "post-injection flare" and transient dizziness and nausea. It is concluded that the drug offers a distinct advantage in intra-articular therapy of the rheumatic dis-

eases, particularly the rheumatoid arthritis.

616.831:615.851

Headache - Therapy.

180. Psychiatric aspects of headache.

Rodolfo R. Varias (Faculty of Medicine and Surgery, University of Santo Tomas, Manila). *Santo Tomas Journal of Medicine*, Sept.-Oct. 1969, v.24, no.5, p. 282-287.

The common features observed in 5 cases with complaints of headache are: 1) no organic basis for the headaches; 2) patients consulted several physicians before seeing a psychiatrist; 3) temporary relief from analgesics and tranquilizers; 4) there was positive psychological basis for the headaches; and 5) all responded to a combination of psychotherapy and chemotherapy.

616.927-074:616-053.2

Typhoid - Diagnosis.

181. A study of the micro Widal reaction with filter paper and loop technic for pediatric use. Fe del Mundo, Hilda L. Kleiner and Juana Yap. *Philippine Journal of Pediatrics*, Aug. 1969, v.18, no.4, p.204-217. graphs, tables. 11 refs.

A comparative study of the Widal reaction in 69 specimens from typhoid-suspect patients, using the micro-technique and macro-method showed a high correlation between the 2 methods as observed among the positive (91%) and negative (93%) specimens. The micro-method has good correlation with the clinical diagnosis. The micro-Widal

test also has advantages over the macro-method for use in pediatric and rural practices.

616.934(=914)

Sprue, Tropical.

182. Tropical sprue in a Filipino.

Mario C. Garcia, Harold Windschitl, Khosrow Jamshidi and William R. Swaim. *Journal of the Philippine Medical Association*, Oct. 1969, v.45, no.10, p.633-638. illus. 40 refs.

The first case of mild tropical sprue in a 57-yr-old Filipino male is reported. The symptoms as well as the microscopic changes in the jejunal and ileal mucosa were mild and non-specific. There was malabsorption of vitamin B₁₂ which reverted to normal after a course of oral tetracycline and parenteral vitamin B₁₂.

616.98-053.1

Serratia marcescens.

183. Serratiosis in a nursery. Potenciano R. Aragon, Benjamin D. Canlas

ciano R. Aragon, Benjamin D. Canlas, Jr. and Nidia Manuson. *Acta Medica Philippina*, ser.2, Oct.-Dec. 1969, v.6, no.2, p.58-62. table. 22 refs.

Five fatal cases of systemic *Serratia marcescens* infection among newborns are presented. The cases which were clinically suppurative meningitis, septicopyemia and septicemia were verified at autopsy. The causative organism was found susceptible to chloromycetin, kanamycin and neomycin.

616.988-097:599.82

Monkeys - Immunology.

Enterovirus infections.

184. Clinical, virological and serological responses of monkeys to dual viral infection. Francisco F. Macasaet, Jose C. Nakao and George W. Beran (Siliman University Medical Center, Dumaquete City). *Acta Medica Philippina*, ser. 2, July-Sept. 1969, v.6, no.1, p. 12-17. tables. 13 refs.

Results of the experiment showed that inoculation with mixed Poliovirus type II and Echovirus type 7 elicited infection by the IC, IN and IM and not by PO routes. Animals infected IM excreted Polio II virus only and high levels of specific neutralizing antibody were demonstrable. Antigenic responses to Echo 7 were of low order.

616.995:615.73 615.73:616.995

Intestinal diseases, Parasitic -
Drug therapy.

185. A preliminary report on levo-tetramisole: a new drug for intestinal capillariasis. Carlos N. Singson and T. C. Banzon. *Journal of the Philippine Medical Association*, Oct. 1969, v. 45, no.10, p.627-632. tables. 5 refs.

Forty-nine cases with *Capillaria philippinensis* infection were treated with levo-tetramisole. The drug was effective at a dose of 2.5-5 mg/kg given for 3-30 days. Side effects such as dizziness, headache, nausea and vomiting were mild and transient. Levo-tetramisole is non-toxic to the hematopoietic and renal organs.

617.53:616-089.8

Cervical plexus - Surgery.

186. The role of cervical plexus block for operations in the neck. Priscilla C. Almonte, Carmencita L. Gisbert and Luisita de Castro. *Santo Tomas Journal of Medicine*, Nov.-Dec. 1969, v.24, no. 6, p.344-349. tables.

The advantages of the use of cervical block in some selected cases of operations in the neck were demonstrated. Of 90 cases of operations in the neck, predominantly thyroidectomies, done under deep and superficial cervical block, 65.5% had excellent results. In some cases, supplementation was necessary when premedication was inadequate, length of surgical procedure was underestimated and the identification of landmarks proved difficult.

617.55:616-001

Abdominal injuries - Diagnosis.

187. A five year study of abdominal injuries in the Philippine General Hospital. Wilfredo C. Feliciano, Mario S. de Villa and Emilio G. Horrilleno. *Philippine Journal of Surgical Specialties*, July-Aug. 1969, v.24, no.4, p. 168-181. tables. 9 refs.

Of the 1178 cases operated on, 87.3% had penetrating and 12.7% non-penetrating injuries. The percentage of negative explorations for penetrating trauma was 21.5% and for non-penetrating injuries, 6%. In both cases, the liver is the most commonly injured organ. With non-penetrating trauma, majority of the organs injured involved

solid viscera, whereas in penetrating injuries, hollow viscus perforations predominated. The mortality in cases with blunt injuries was significantly higher than those with penetrating injuries.

OPHTHALMOLOGY.

617.7:616-089.8

Glaucoma - Surgery.

188. Researches on glaucoma. Josefina L. Dizon and Jesus S. Eusebio. *Santo Tomas Journal of Medicine*, Nov.-Dec. 1969, v.24, no.6, p.350-363. graphs, tables, illus. 10 refs. (Read at the University of Santo Tomas Hospital Residents Scientific Meeting, Sept. 24, 1969, Manila)

Recent researches in the management of glaucoma proved that Mannitol rendered surgery of the rebellious glaucoma safe. Also, a technique of scleral lip eversion remarkably improved the prognosis, increasing the percentage success from 29% in 1962 to 55% in 1968. However, the classical iridenclesis was found not very successful among Filipinos.

Data obtained in 1962-1968 from the University of Santo Tomas Hospital (Manila) revealed that 50% of cases of glaucoma are seen in their advanced stages. Thus, the establishment of a center for the early detection and treatment of the disease is proposed.

617.713:615.475

Eye, Instruments and apparatus for.

189. Some mechanical devices for cornea and eye banks. Geminiano de Ocampo,

Salvador R. Salceda, Alejandro S. de Leon, Antonio Montalbo, Mario Valenton, Rolando Gestuvo, Johnny Li and R. Abendanio (Philippine Eye Research Institute, University of the Philippines, Manila). *Proceedings of the National Science and Technology Week*, July 15-21, 1968(1969) pt. 3, p.1-8. 6 refs.

The Philippine Eye Research Institute of the University of the Philippines (Manila) designed devices for eye and cornea banks, namely: 1) post-mortem cooling devices; 2) storage container for eyeball or cornea; 3) corneal plastic film for reforming cadaver eyes; 4) sclera corneal clamp for keratoplasty; and 5) corneal dissector (de Ocampo). The materials and methods used for these devices are briefly discussed.

617.75:615.851

Psychophysiologic disorders - Therapy.

190. Ocular psychophysiologic disorders. Pablo J. Nañagas. *Philippine Journal of Ophthalmology and Otolaryngology*, July-Dec. 1969, v.21, nos.3-4, p.51-66. table.

Nine cases of ocular psychophysiologic disorders are discussed. The psychotherapeutic techniques used which proved most useful were superficial expressive, suppressive and supportive therapy.

617.77:616-089.8

Blepharoptosis - Surgery.

191. Levator-Mullers Muscle resection through combined internal and external approach. Burgos T. Sayoc. *Philippine*

Journal of Surgical Specialties, July-Aug. 1969, v.24, no.4, p.192-208. tables, illus. 19 refs.

A modified ptosis technique combining both the internal and external routes was used in 18 patients with 92% success. The technique emphasizes the complete separation of the septum orbitale from the levator aponeurosis, care of the orbicularies during and after surgery and careful calculation of how much levator muscle to resect. It was noted that sex and type of ptosis play an important role in the management of ptosis, more resection being required in females than in males, and less resection in acquired ptosis than in congenital. Lid edema, chemosis and lagophthalmos were the only mild complications noted.

GYNECOLOGY. OBSTETRICS.

618.11:616-006

Hydatidiform mole.

192. **Biochemical studies of hydatidiform mole fluid.** Flora M. Pascasio, Rosalina Suarez, Genara Limson-Manuel and Erlinda Gonzales-Germar (College of Medicine, University of the Philippines, Manila). *Acta Medica Philippina*, ser. 2, Oct.-Dec. 1969, v.6, no. 2, p.67-72. tables, illus. 8 refs.

Significant differences were observed in the total protein and electrophoretic fractions between the mole cases and normal pregnant women. Patients with hydatidiform mole had low values of total serum proteins and albumins, but had higher levels of globulins than the normal pregnant women.

This suggests that hydatidiform mole cases exist in those with protein deficiencies.

618.14:616-006

Trophoblastic tumor.

193. **An epidemiologic study of trophoblastic diseases.** Herminia Baja-Panlilio, Presentacion C. Peralta and Fernando S. Sanchez, Jr. (U.E. Ramon Mag-saysay Memorial Medical Center, Quezon City). *Journal of the Philippine Medical Association*, Oct. 1969, v.45, no. 10, p.607-614. tables. 10 refs.

A total of 581 cases of hydatidiform mole and chorionic malignancy associated with hydatidiform mole were studied. Only 10% of the cases were malignant, 45 of which mostly 20-29 yrs old were cases of chorioadenoma destruens and 13 were cases of choriocarcinoma. Malignant degeneration among hydatidiform mole cases increased with age, gravidity and parity. It is apparent that to significantly reduce the incidence of malignancy associated with hydatidiform mole, child-bearing should be terminated after the age of 35 yrs and/or after having 3 pregnancies and/or 3 children. Hysterectomy is advised for women having these characteristics who develop hydatidiform mole.

618.19:616-006.6-073

Breast neoplasms - Diagnosis.
Mammography.

194. **Mammography.** Reynaldo F. Guillermo, Leon L. Lopez and Alfonso L. Doria. *Santo Tomas Journal of Medicine*, Nov.-Dec. 1969, v.24, no.6, p. 338-343. tables. 27 refs.

The technique, indications, radiologic signs of malignancy, and pitfalls in roentgen diagnosis of breast cancer are discussed.

Of the 75 cases mammographed at the University of Santo Tomas Charity Hospital (Manila), 80% showed correct roentgen impressions.

618.2:616-072

Ultrasonics - Diagnostic use.

Pregnancy tests.

195. Ultrasonic fetal heart detection — a new diagnostic aid in obstetrics. Alejandro Legarda, Jesus C. Tomacruz and Venerando M. Valencia. *Santo Tomas Journal of Medicine*, Nov.-Dec. 1969, v.24, no.6, p.364-373. tables, illus. 3 refs.

The Toitu Doppler used in the diagnosis of early pregnancy is described. It proved 100% accurate in cases where amenorrhea was 10 wks or more. It confirmed the presence or absence of hydatidiform mole in 8 cases, and of abortions and intrauterine fetal deaths in 25 cases. Other cases where the instrument proved 100% accurate are enumerated.

618.3

Pregnancy complications,
Cardiovascular.

196. Death of a gravido-cardiac after delivery. *Acta Medica Philippina*, ser. 2, July-Sept. 1969, v. 6, no.1, p. 28-33. 1 ref.

A case of gravido-cardiac in a 20-yr-old woman is presented. A macerated fetus on the 31st wk of gestation was

delivered after 3.5 hrs labor. There was no history of previous cardiac failure. Pathologic findings showed that the case was an idiopathic pulmonary hypertension.

VETERINARY MEDICINE

619:616.988:636.5(043)

636.5.089(043)

Poultry - Diseases and pests.

Newcastle disease virus.

197. A preliminary study on the identification and classification of Newcastle disease virus (NDV) strains obtained from field outbreaks in the Philippines. Jose A. Navarro. Dili-man, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3l. 25p. tables. 23 refs. (Thesis. Doctor of Veterinary Medicine)

The criteria used in the identification of the virus strains were mean death time, thermostability of hemagglutinin and demonstration of mammalian hemagglutinin. Based on the characteristics drawn by the Poultry Disease Subcommittee, 5 of the field strains were lentogenic and 2 were mesogenic. 3 agglutinated equine erythrocytes, 1 agglutinated bovine erythrocytes and 3 showed thermostable hemagglutinin activity.

619:616.993:636.293(043)

Carabaos - Parasites. Carabaos -
Diseases and pests.

198. A study on the incidence and pa-

thology of *Elaeophora poeli* Vryburg, 1897, infection in Philippine carabaos. Julian E. Mesina, Jr. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 29p. 4 $\frac{1}{2}$ plates. 8 refs. (Thesis. Doctor of Veterinary Medicine)

Of 500 carabaos examined 327 were found infected with *Elaeophora poeli*, with lesions of varying sizes and number. Some of which were superimposed on arteriosclerotic changes of the aorta were noted.

619:616.993:636.5 636.5.089

Poultry - Diseases and pests -
Therapeutics.

Leucocytozoon caulleryi.

199. Controlling a newly-found chicken parasite. Mauro O. Manuel (College of Veterinary Medicine, University of the Philippines, Quezon City). *Philippine Farmers' Journal*, Fourth Quarter 1969, v.11, no.4, p.18-19. table.

In the Philippines, *Leucocytozoon caulleryi* was recently found to be widespread in Central Luzon causing heavy losses in poultry farm. *Leucocytozoonosis* can be mistaken for avian malaria, avian leukosis complex, fowl cholera and avian pest. The occurrence of the disease is related to the abundance of biting midges, the disease transmitter. Chicks below 6 mo. old are most susceptible to the disease. No curative drug has so far been known. However, preventive measures such as medicated feed or water control of insect transmitter may be instituted.

619:616.995:636.2(914)

Cattle - Diseases and pests. Nematodes - Parasitic in livestock.

200. Some nematode parasites of the gastro-intestinal tract of cattle in the Philippines with special reference to four unrecorded bursate species. Pedro V. Reyes (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.71-75. plates. 5 refs.

Of the 10 species of nematodes identified, *Haemonchus similis*, *Trichostrongylus axei*, *Cooperia punctata*, *C. pectinata* and *Strongyloides papillosus* are recorded for the first time in cattle in the Philippines. A survey of farms in Bohol, Mindanao and Isabela showed that *Mecistocirrus digitatus* was the predominant parasite in the true stomach of calves; *H. contortus* and *H. similis* were noted in farms and ranches where cattle and goats are raised together; *contortus* was more of a parasite of sheep and goats than cattle; and *similis* was essentially a stomach-worm of cattle.

619:616.995:636.4 636.4.089

Swine - Diseases and pests.

201. A study on the incidence and prevalence of cysticercosis, stephanuriasis and metastrongylosis among locally raised swine. Mauro F. Manuel and Roberto P. Dacumos (College of Veterinary Medicine, University of the Philippines, Diliman, Quezon City). *U.P. Veterinarian*, 1969-1970, v.14, no.1, p.18-30. tables. 25 refs.

Of the 2366 pigs examined 2.367%

were found with cysticercosis, 37.996% with stephanuriasis and 37.106% with metastrongylosis. It was found that the infections were prevalent among native and crossbreds, and very low among imported pure breeds. It is believed that the better breeds raised in the urban areas are less prone to infection than the native pigs raised in the rural areas. Also, the high incidence of cysticercosis among native pigs is attributed to poor sanitation and management.

619:616.995:636.41 636.4.089

Swine - Diseases and pests.

Cysticercus cellulosae.

201. *Cysticercus cellulosae* in pigs slaughtered at the Manila Abattoir. Primo V. Arambulo, III, Aurora B. Cada, Rustica V. Sarmiento and Adolfo B. Cielo (Div. of Research and Lab., Veterinary Inspection Board, Manila). *Acta Medica Philippina*, ser. 2, July-Sept. 1969, v.6, no.1, p.26-27. tables. 6 refs.

Of 610,177 pigs examined, 107 were positive for *Cysticercus cellulosae*. Both sexes were affected at the age of 1 mo. to 3 yrs. The occurrence of the parasite was relatively highest in pigs slaughtered in Dec. and lowest in Sept. 28 of the pigs affected came from Masbate.

619:636.293:591.2(043)

Pancreas - Pathology - Carabaos.

203. Some anatomico-pathological observations in the pancreas of Philippine carabaos. Germelina T. Baoy.

Diliman, Quezon City College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3l. 18p. plates. 9 refs. (Thesis. Doctor of Veterinary Medicine)

The normal pancreas in Philippine carabaos was found to be pinkish, weighing 300-400 g, and is made up of the exocrine and endocrine portions. The pathological changes noted were dark coloration, edema and fibrosis, vascular congestion, edema and leucocytic infiltrations of pancreatic fatty tissues, fibroplasia of the ductal and vascular systems associated with incomplete bleeding, fat necrosis and fascioliasis.

ENGINEERING

621.311.4:621.784

Power plants - Design. Water cooling systems.

204. The effect of the revised cooling system of the Daimler-Benz power plant. Perfecto P. Garcia and Levi Durano (Mindanao Institute of Technology, Kabanacan, Cotabato). *MIT Research Journal*, Jan.-June 1969, v.2, no.1, p.35-47. tables, diagr. 5 refs.

The open cooling system designed in the Daimler-Benz power engine to remedy the over-heating problem is briefly discussed. Some problems encountered were water impurities, and the resulting scale and sediment deposits in the engine jackets.

622.344:622.765

Ore treatment.

205. Beneficiation of a complex lead-

zinc-copper sulfide ore from Ayala district, Zamboanga. A. S. Malicsi and G. C. Magkawas (Metallurgist and Analytical Chemist, respectively, Bureau of Mines, Manila). *Philippine Mining Journal*, Sept. 1969, v.11, no.9, p.2, 4, 6, 8, 10, 12, 14, 16, 18-20, 41. tables, diagr.

Three batch samples of sulfide are of varying grades were treated to determine how each would respond to flotation. Results showed the feasibility of bulk flotation in producing bulk sulfide concentrates at satisfactory recovery. Also, a detailed study of the intermediate grade are indicated the possibility of producing a combined Cu-Pb concentrate at 54% Cu and 50.8% Pb recoveries and a Zn concentrate at 83.3% recovery and 6.6% yield; or separating Cu, Pb and Zn concentrates by selective flotation, at 81.5% Pb and 55.4% Zn and recoveries. No Cu concentrate of satisfactory grade was obtained.

622.5.

Tailings. Mines and mining - Waste disposal.

206. BCI's mill tailings disposal. *Philippine Mining Record*, Dec. 1969, v.4, no.1, p.38-40. illus.

The disposal system of Benguet Consolidated, Inc. in Batuang (Balatoc) is described. The system involves rerouting the entire flow of Ambalanga river, and construction of retaining dams and drainage facilities. The tailings could be impounded in the dried-up river bed between the dams, and water that would accumulate in the impounding basin could be slowly drained-off. Gravita-

tional settling of sand and slimes takes place in the tailings pond. The use of the impounding pond has been proven to be an effective water pollution control.

622.78

Ore treatment - Crushing & grinding.

Mineralogy - Sulfides.

207. Economic investigations on the processing of cinnabar ores and extraction of prime virgin mercury at Palawan Quick Silver Mines. Leopoldo F. Abad (Mining Engr.-Geologist, Marsman & Co., Inc., Makati). *Philippine Mining Record*, Sept. 1969, v.3, no.11, p.28-32. tables, diagr.

The present practice at the Palawan Quick Silver Mines, Inc. has not achieved maximum operating efficiency. Various problems encountered are: 1) the increasing volume of low-grade and sub-marginal ore reserves requiring beneficiation before such ore could be commercially milled; 2) the use of wet ore for mill feed causes over consumption of time and fuel oil for drying its moisture content; and 3) without pre-drying, wet mill feed reduces the ore load capacity of the kilns and thus prevents maximum production.

624.023-042

Structural design.

208. Matrix structural analysis. Salvador F. Reyes. *Philippine Architecture, Engineering & Construction Record*, Nov. 1969, v.16, no.8, p.23, 26, 28, 30, 32-35. tables. 12 refs.

The basic methodology of matrix

structural analysis showing some of the common manual techniques and of the structural frameworks composed of elastic materials is briefly discussed. Matrix formulations were used for examining the relative merits of the various methods. Force method was found more suitable for trusses, while displacement method, for frames. However, additional mathematical tools and matrix techniques are needed for a modern approach to structural analysis.

AGRICULTURE AND FORESTRY

631.531:631.565

Forage plants - Handling.

209. Longevity of forage vegetative planting materials. Catalino C. Cata-naoan. *Agricultural and Industrial Life*, July 1969, v.31, no.7, p.36-37. table.

The Farinas method of preserving the life of vegetative propagation materials while in transit is briefly described. Experiments on cuttings, rootstocks and crowns of grasses and legumes wrapped in wet sphagnum moss in a plastic bag showed that the method is successful and profitable in prolonging the longevity of materials for propagation.

633.11:631.588

Wheat, Effect of radiation on.

210. The performance of irradiated M2 generation of Neveh Yaar wheat. Antonio Rocha, Jr. and Anselmo Cabigan. *Araneta Journal of Agriculture*, Oct.-Dec. 1969, v.16, no.4, p.254-267. ta-

bles, illus. 15 refs.

Based on the 7 agronomic characters observed, the performance of M2 generation of Neveh Yaar exposed to ultraviolet rays was inferior to untreated plants. However, 2 atypical plants irradiated for 4 min had significant genetic and economic improvement in spikelet characters, which deserve further investigation.

633.11:631.86:631.82(043)

633.11:631.552(043)

Wheat - Yield.

Fertilizers for wheat.

211. Comparative effect of farm manure and complete fertilizer upon the growth and yield of wheat, Festival variety. Gregorio C. San Andres. Victoneta Park, Malabon, Rizal, Araneta University Foundation, Nov. 1969. 2^l. 11p. tables. 7 refs. (Thesis. B. S. in Agriculture)

Applications of goat manure and commercial fertilizer had no significant effect on the height of the plants and number of spikelets produced. However, wheat plants treated with the manure yielded significantly more grains than those treated with complete fertilizer.

633.15:631.52

Corn - Hybrids. Corn - Yield.

212. The MIT selection - A boon to corn production. C. M. Marasigan and T. C. de la Cruz. *MIT Research Journal*, July-Dec. 1969, v.2, no.2, p.29-31. table.

MIT Selection 2 (MIT S2) is a high yielding and downy mildew resistant selection developed at the MIT-UNESCO

seed Production and Distribution Project of the Mindanao Institute of Technology, Kabacan (Cotabato). It is a multiple cross of Mountain Rox, Tinguib White Flint, Cebu White Flint, Maguindanao Red and other local varieties. It is extensively used as a parent material for the development and/or further improvement of other varieties, hybrids and synthetics. Its actual average grain yield is 70 cavans/ha.

633.15:631.588

Corn, Effect of radiation on.

Corn - Seed.

213. The effects of ultraviolet irradiation upon twenty-hour-preconditioned corn seeds. Antonio Rocha, Jr., Probstiano Capiral, Jr. and Pedro S. Degamo, Jr. *Araneta Journal of Agriculture*, Oct.-Dec. 1969, v.16, no.4, p. 268-278. tables, illus. 12 refs.

Experiments with seeds of the Caribbean Yellow Flint variety showed that ultraviolet radiation had no effect on the growth of corn seedlings and general morphology of corn plants. However, corn ears were significantly longer, and grain-yield was significantly higher than those of irradiated plants.

633.15:631.81 633.15:631.84

Fertilizers for corn. Corn - Yield.

214. Studies on the relative yield response of three major crops to various levels of NPK fertilizers at MIT. II. Corn (*Zea mays* L.): MIT selection var. 2 and Cebu White Flint varieties. K. E. Pahm, K. Pantao and F. Agarcio

(Mindanao Institute of Technology, Kabacan, Cotabato). *MIT Research Journal*, July-Dec., 1969, v.2, no.2, p.1-8. graphs, table. 2 refs.

Experiments showed a general increase in grain and dry matter yields during the dry season trial for both varieties compared to the wet season trial. MIT selection var. 2 responded positively to N fertilization applied at 60 kg/ha. during the wet season and at 300 kg/ha. during the dry season cropping. N fertilization at 300 kg/ha. and P_2O_5 applied at 120 kg/ha. promoted the highest grain yield in MIT selection var. 2 and Cebu White Flint, respectively.

633.18 633.15

Rice - Water requirements. Corn - Water requirements.

215. Water requirement and consumptive use of rice and corn. Julian Bulanadi. [Manila, July 1969]. 9p. 12 refs. Mimeographed. (Paper presented at the National Science & Technology Symposium, July 14-19, 1969, Manila)

Under Los Baños conditions, the water requirement of rice was found to vary with season. The consumptive use of rice ranged from 6.7 to 6.9 mm/day in Sept.-Dec. As observed with Tjere-mas variety, water consumption was 8.8 mm/day in April-Aug., 6.2 mm/day in Dec.-March and 7.1 mm/day in May-Sept. In the case of IR-8 variety, the total evapo-transpiration was 364-469 mm or an average daily rate of 4.63 mm during the wet season.

A study of the water requirement of 4 dry-season crops of corn showed that the total water requirements ranged from 158 to 1108.8 mm.

633.18:581.035.2

Rice, Effect of light on.

216. Studies on the responses of the rice plant to photoperiod. V. Number of photo-inductive cycles needed for panicle initiation and panicle emergence. B. S. Vergara and R. M. Visperas. *Philippine Agriculturist*, Oct.-Nov. 1969, v.53, nos.5-6, p.308-312. tables. 7 refs.

Tests made on 8 photoperiod-sensitive varieties showed that the minimum number of photo-inductive cycles to initiate a panicle primordium was 8-12 cycles. Varieties with greater sensitivity to photoperiod required more photo-inductive cycles to develop a fully exerted panicle.

633.18:631.52(043)

Rice - Breeding. Rice - Yield.

217. Further selection of desirable strains of twelve Taiwan rice varieties in the second generation. Henry N. Roquedan. Victoneta Park, Malabon, Rizal, Araneta University Foundation, July 1969. 2^l. 20p. tables. 7 refs. (Thesis. B. S. in Agriculture, Major in Plant Breeding)

Of the 12 strains of Taiwan rice variety, 5 were selected based on their computed yield ranging from 88.13 to 91.41 cavans/ha.

633.18:631.52(043)

Rice - Disease and pest resistant varieties.

218. The resistance of five rice hybrid strains in the F₃ generation to leaf blast, bacterial leaf blight, bac-

terial leaf streak, narrow brown leaf spot and brown spot. Rungsen Keereetavees. Victoneta Park, Malabon, Rizal, Graduate School, Araneta University Foundation, Dec. 1969. 8^l. vi, 79p. plates, tables. 29 refs. (Thesis. M. S. in Agriculture, Major in Plant Breeding)

JC x IR-5, JC x IR-8 and JC x C-18, and the parent variety IR-5 showed moderate resistance to bacterial leaf blight, bacterial leaf streak and narrow brown leaf spot. The JC parent variety was found resistant to narrow brown leaf spot and moderately resistant to bacterial leaf blight and bacterial leaf streak.

633.18:631.543

Rice - Cultivation. Rice - Seed.

219. Direct method of seeding IR-8. Filomeno Campos (Central Luzon State University, Nueva Ecija). *Agricultural and Industrial Life*, July 1969, v.31, no.7, p.18, 20.

Experiments conducted in Asingan (Pangasinan) showed that IR-8 rice variety can be grown by the direct method of planting with satisfactory crop yield even in areas dependent on rainfall. The seeds were soaked overnight in H₂O to hasten germination. The computed yield was 107.74 cavans/ha. The relatively high yield may be attributed to the cultural practices employed.

633.18:631.84

Rice - Fertilization.

Rice - Yield.

220. Studies on the relative yield

response of three major crops to various levels of NPK fertilizers. I. Rice (*Oryza sativa* L.): BPI-76-1 and IR-8 varieties. K. E. Pahm and J. A. Habana (Mindanao Institute of Technology, Kabacan, Cotabato). *MIT Research Journal*, Jan.-June 1969, v.2, no.1, p. 25-34. graphs, table. 3 refs.

Results of experiments indicated the negative response of BPI-76-1 and IR-8 varieties to NPK fertilization during the wet season. In terms of grain yield, both varieties responded to N applied at the rate of 60 kg/ha. during the dry season. There was a general increase in grain yield from the wet to the dry season trial for BPI-76-1. NPK fertilization effected a relatively higher dry matter yield during the wet season, the highest being from N-fertilized plots.

633.3:631.52

Legumes - Varieties. Cattle - Feeding.

221. *Dolichos lablab* var. *rongai*, a new legume for cattle raising in the Philippines. Ramon F. Encarnacion (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.89-91. plate.

Dolichos lablab var. *rongai*, a new outstanding strain of the *lablab* bean from New South Wales (Australia), was successfully propagated in Basilan City. It is one of the best legumes for pasture purposes. It can be grazed 6 mo. after sowing, if growth is satisfactory.

633.3:631.552

Legumes - Yield.

222. Focus on legumes. Pedro B. Bueno. *Agricultural and Industrial Life*, July 1969, v.31, no.7, p.28-29.

A new soybean variety, CES 486, developed by the U.P. College of Agriculture, College (Laguna) is reported. It yields an average of 37 cavans/ha. It can be grown profitably during the wet and dry seasons, and also it can be used as a rotation crop following corn.

In general, studies have shown that soybean yield can be increased by weeding. Herbicides such as dacthal, treflan and planavin were found to successfully control grass weed species.

633.52:631.55(043)

Hibiscus cannabinus.

223. Variability in yield of fiber of individual plants of spineless kenaf strain. Danilo B. San Juan. Victorina Park, Malabon, Rizal, Araneta University Foundation, Aug. 1969. 2^l. 17p. table, illus. 4 refs. (Special problem. B. S. in Agriculture)

Strain A-59-80 was grown under Araneta University Foundation conditions. Results showed that the plants grew to an average height of 226.67 cm which is acceptable for baling purposes. Stem diameter was highly correlated with height. Fiber and seed did not show any correlation either with each other or with height and stem diameter. The lightest and heaviest dry weights of fiber were 3.52 and 12.04 g, and the lowest and highest yield of seed were 1.42 and 21.71 g, respectively.

633.61:631.543

Sugar cane - Planting.

- 224. Techniques in planting.** Angel V. Sobrepeña (Agronomist, Philippine Sugar Institute, Quezon City). *Sugarland*, Nov. 1969, v.6, no.10, p.14, 16. illus.

The techniques in planting sugar cane are described briefly. With well-selected 3-bud cane points, 30,000 cane points can be planted to a hectare at any planting position. Under normal conditions, eyes germinate 3-5 days after planting.

633.61:631.82

Fertilizers for sugar cane.

- 225. Fertilizing sugarcane.** Victorias Experiment Station Bulletin, May-Aug. 1969, v.16, nos.3-4, 14, p.1-15. illus.

The functions, methods and time of application and relationships to soil of N, K and P in sugarcane fields are discussed. It has been found that a 90-ton/ha. cane yield removes from the soil about 120 kg N, 75 kg P_2O_5 and 250 kg K_2O such that these nutrients should be replenished. The Research Dept. of the Victorias Milling Co., Inc. (Negros Occidental) is conducting soil analysis as basis of fertilizer recommendations.

633.71:631.552

Tobacco - Yield.

- 226. A study of the effect of topping and selective suckering on the yield of three cigar-filler tobacco varieties under Ilagan conditions.** F. O. Cabrilas, P. A. Bagoyo, J. Beltran, Jr., G. Fernandez and R. A. Luis (Philippine Tobacco Administration, Quezon City).

Proceedings of the National Science and Technology Week, July 15-21, 1968(1969) pt.1, p.143-157. tables.

Observations were made in 1962-1963 at the Central Tobacco Experiment Station, Ilagan (Isabela) on Vizcaya, Simmaba and Romero varieties. Results showed that in general, topping promoted higher of sucker leaf than main leaf; high topping produced less sucker leaf than that produced by low topping. The total yield for each of the 3 levels of topping from the 3-sucker treatments was more than that from the 2-sucker treatments. The main leaf was generally bigger than the sucker leaf.

633.73:631.552:631.82

Fertilizers for coffee.

Coffee - Yield.

- 227. The effect of chemical fertilizers on the yield of Arabica coffee.** Petronilo R. Ramos (Bureau of Plant Industry, Manila). *Philippine Journal of Plant Industry*, Third-Fourth Quarter 1967(1969), v.32, nos.3-4, p.165-176. plate, tables. 13 refs.

Treatment with $(NH_4)_2SO_4$ (20% N), superphosphate (20% P_2O_5), and muriate of potash (60% K_2O) promoted vigorous growth, broader and darker green leaves more glossy appearance, and higher yields (2758.8-3671.4 kg/ha.) than the unfertilized plants. Also fertilized plants had broad and dark green leaves.

633.91:631.531

Rubber (hevea). Growth inhibiting substances (plants).

- 228. Effects of growth regulators on the rooting responses of para rubber**

cuttings under continuous mist. Ruben T. Barraca and Ramon V. Valmayor. *MIT Research Journal*, July-Dec. 1969, v.2, no.2, p.16-19. 13 refs.

The growth regulators tested were indoleacetic acid, indolebutyric acid, alpha naphthaleneacetic acid and fer-mate powder. Results showed that treated and untreated leafy seedling cuttings rooted in 30-40 days. Clonal cuttings, however, failed to root possibly due to some physiological aspects of the clonal stocks such as juvenility, deficiency of growth substances, and presence of rooting inhibitors and schlerenchyma rings between the phloem and cortex.

634.0:631.84

Fertilizers - Experiments, Field.
Kaatoan bangkal seedlings.

229. The effects of fertilization on the growth of Kaatoan bangkal seedlings. Neptali Q. Zabala (College of Forestry, University of the Philippines, College, Laguna). *Proceedings of the National Science and Technology Week*, July 15-21, 1968, pt.3, p.387-401. graphs, tables. 13 refs.

Studies showed that the application of N_2 at 90 kg/ha. and P at 30 kg/ha. promoted significant increase in height of Kaatoan bangkal (*Anthocephalus chinensis*). Other treatments did not have significant effects in the height and diameter of Kaatoan bangkal seedlings.

634.0.2

Hopea cagayanensis.

230. Silvical characteristics of narek (*Hopea cagayanensis*). Mariano T. Ma-

chacon. *Reforestation Monthly*, Sept.-Oct. 1969, v.13, nos.9-10, p.16-17.

The habitat, conditions, life history, size attained, hybrid and variety, wood properties, structure of wood, and uses of narek are discussed.

634.0.2

Teak.

231. Stump and seedling planting of teak in Cebu and Bohol. Tomas M. Binua (Reforestation Administration, Diliman, Quezon City). *Reforestation Monthly*, July-Aug. 1969, v.8, nos.7-8, p.10-12, 24. tables. 5 refs.

Results of the field experiments showed the advantages of stump over seedling planting of teak: 1) it is cheap, has longer clear length and better quality stump; 2) yields more timber and construction materials; and 3) has faster growth rate in both diameter and height.

634.3:631.53(043)

Citrus fruit - Seeds.

232. The use of tetrazolium test for determining the viability of citrus seeds. Chunpenit Kasem. Victoneta Park, Malabon, Rizal, Araneta University Foundation, Aug. 1969. 4l. 16p. plate, tables. 2 refs. (Thesis. B. S. in Agriculture, Major in Plant Breeding)

Tests showed that seeds uniformly well stained and those with minor unstained areas on cotyledons were considered potentially viable. Seeds with cotyledons normally stained but with white or unstained root tip and major areas of the embryo unstained, and

-those with the embryo stained abnormally dark or entirely unstained were potentially non-viable. The average potential viability was 55.8%; no seeds germinated during the actual viability test.

634.3:632.3

Citrus nematodes. Nematodes -
Parasitic in plants.

233. Plant parasitic nematodes associated with citrus decline in Batangas. Apolinaria G. Trinidad and R. G. Davide (College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, Oct.-Dec. 1969, v.9, no.2, p.12-14. table, illus.

Soil samples taken from 33 citrus farms were examined. 8 plant parasitic nematodes were identified: *Tylenchulus semipenetrans*, *Pratylenchus* spp., *Helicotylenchus* spp., *Hoplolaimus* spp., *Criconeimoides* spp., *Xiphinema* spp., *Tylenchus horhynchus* spp. and *Hemicycliophora* spp. *T. semipenetrans* was the most common and widely distributed, with a population of 58.6% and a distribution of 98.4%.

634.3:632.7:632.951

Citrus fruits - Diseases and pests.

234. Three levels of Meptox and Endrin for the control of adult citrus snout beetles. Nicolas N. Dawi and Dely P. Gapasin (Mindanao Institute of Technology, Kabacan, Cotabato). *MIT Research Journal*, Jan.-June 1969, v.2, no.1, p.62-72. tables. 8 refs.

Meptox and Endrin were sprayed at the rate of 0.12, 0.24 and 0.48% on 108 seven-yr-old Szinkom variety and the

effects were observed within 72-hr exposure. 0.48% Meptox was more effective than Endrin at 72-hr exposure in the control of adult citrus snout beetle. No toxic effects were noted on the plants, and other insects attacking citrus were effectively killed.

634.772:631.55:631.563/.565

Bananas - Maturity.

235. Some problems and recommendations for harvesting and marketing bananas. Er. B. Pantastico, D. B. Mendoza, Jr. and J. C. Hapitan, Jr. (College of Agriculture, University of the Philippines, College, Laguna). *Agriculture at Los Baños*, July-Sept. 1969, v.9, no.1, p.10-12, 14. table, illus.

The present indices of maturity in grading bananas for harvesting are inadequate. It is suggested that maturity should be judged not only by the fullness of finger but also by the color and size, and the number of days from the time the flower emerges to maturity. In general, bananas can be kept in sealed polyethylene bags for 10-12 days. Lakatan, Bungulan and Latundan can be safely stored at 57°F. For maximum keeping quality, controlled atmospheric storage can prolong marketability up to 5 wks, as observed with family mature Lakatan, Bungulan and Dwarf Cavendish stored in an atmosphere of 6% CO₂ and 2% O₂ at 50°F.

635.25:631.552

Onions - Yield.

236. Growth and yield of Batanes onion as influenced by levels of nitrogen and type of planting material. Ariston B.

Suyat and Santiago I. Lingas. *CLSU Scientific Journal*, Oct.-Dec. 1969, v.5, no.2, p.78-87. tables. 5 refs.

Experiments showed that sets were better than seedlings as planting materials since they produced higher yield, matured earlier and were easier to manage. 80 kg/ha. N increased growth rate and yield.

635.65:631.552(043)

Soybeans - Yield.

237. A study on the effect of photo-period in five different varieties of soybean. Manitaya Amnuay. Victoneta Park, Malabon, Rizal, Institute of Graduate Studies and Applied Research, Araneta University Foundation, Dec. 1969. xii, 70p. graphs, tables, illus. 36 refs. (Thesis. M. S. in Agriculture, Major, in Genetics and Plant Breeding)

Under Philippine conditions, Yellow Biloxi ranked the tallest both in the short-day and long-day culture periods followed by Yellow Gatan, Pisanuloke, and Maejo Expt. Sta. No. 2 and No. 3. Yellow Gatan was the most sensitive followed by Pisanuloke, Maejo Expt. Sta. No. 2 and No. 3. Maejo Expt. Sta. No. 2 and No. 3 were the best yielders. Seeds cultured during the long-day period had greater moisture, crude fiber, crude fat, ash, and carbohydrate contents; protein content was not affected by season.

ANIMAL HUSBANDRY AND PRODUCE

636.082.001.5

Breeding.

238. Current and proposed animal

breed-research projects. B. A. Parker (College of Agriculture, University of the Philippines, College, Laguna). *Science Review*, Aug. 1969, v.10, no.8, p.16-18. (Paper presented at the First Annual Symposium on Food Research, July 15, 1969, Manila)

A review of the projects in animal breeding indicated a concentration of researches in swine and poultry, but in a very limited area especially in beef and dairy cattle. Most researches are on selection, pedigree breeding and development of strains. Further research work are suggested on cross-breeding, evaluation in effects of selection using laboratory species, progeny and sib testing and consideration of gene resources of South East Asian breeds of livestock.

636.2.082

Cattle breeding - Crossbreeding.

239. Mating systems in beef cattle breeding. K. A. Alim (UNESCO Animal Husbandry Specialist, Mindanao Institute of Technology, Kahacan, Cotabato). *MIT Research Journal*, Jan.-June 1969, v.2, no.1, p.19-24. tables.

In the improvement of the quality of livestock in the Philippines, the local types should be considered. In breeding carabao, the parent stock should be out-crossed and the females in the first generation cross are selected after their second calving, and crossed with buffalo bulls of high potential for milk production. The buffalo bulls may also be crossed with superior carabao cows in the parent stock. This procedure may be adopted for local cattle. The Brown Swiss may be used

for crossing the local cattle as this breed seems to possess desirable characteristics. For purebred cattle, the recommendations of Lush for breeding are suggested.

636.2.082.4

Cattle - Performance records.

Cattle - Feeding.

240. On livestock and livestock feed. Leonila B. Flores. *Agricultural and Industrial Life*, July 1969, v.31, no.7, p.42.

The U.P. College of Agriculture, College (Laguna) recommends upgrading of Philippine native cattle with improved bulls from a similar tropical environment, or bulls selected from within the herd, if improved management is not provided. Studies showed that environment contribute approximately 75% to improve livestock. Guinea grass is one of the recommended forage grasses for the tropics. It was found that carabaos and dairy cattle fed Guinea grass gained weights at the rate of 0.28 kg/day.

636.2.083

Cattle - Castration.

241. Beef calves need not be castrated. L. L. Clamohoy. *Better Poultry and Livestock*, Sept. 1969, v.11, no.1, p.40-42.

Castration is now considered an unnecessary practice in the beef producing industry. Studies have shown that young beef males compared to steers gain faster and more efficiently up to weaning age; have more muscular carcasses, lean meat, retained cuts but

less fat; and meat is more palatable. In general, young beef males are better than steers in every respect in the production of lean beef.

636.2.083.089

Brucellosis in cattle.

242. Can brucellosis-free calves be produced from infected dams? A preliminary report. Severino L. Gatapia, Antonio M. Castillo and A. S. Quizon (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.83-87. tables. 10 refs.

Results of the study on the 13 infected cows that produced 10 calves showed that 3 calves were positive to agglutinin test and became negative later until reaching breeding age. 2 of the heifers were already bred and dropped healthy without positive reaction.

The calves are under further observations.

636.4:591.11(043)

Erythrocytes - Swine.

243. A study of the erythrocyte sedimentation rate and red blood cell counts of pigs raised in the Philippines. Jose S. R. Laraya, V. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3l. 36p. tables. 46 refs. (Thesis. Doctor of Veterinary Medicine)

Based on data obtained from 296 pigs, the erythrocyte sedimentation rate was 0.0-63.0 mm; and the red blood cell count ranged from 2.57 to 9.20.

636.4.082

Swine breeding.

Swine - Performance records.

244. A study of the Dickerson-Lasley method of providing selection index on performance of sows. Chobvit Lupairee. *Araneta Journal of Agriculture*, Oct.-Dec. 1969, v.16, no.4, p.221-239. tables. 23 refs. (Thesis presented to the Faculty of the Institute of Graduate Studies and Applied Research, Araneta Foundation University, for the degree of M. S. in Agriculture, Major in Animal Breeding and Nutrition, Dec. 1968)

The study was conducted on 67 sows, 59 boars and 584 weanlings of different breeds and crosses. Results showed that the 3-way crosses gave the highest performance with an index of 92.29, followed by the purebreds, 81.60 and the 2-way crosses, 81.21. Among the purebreds, the Landrace sows gave the best performance, with index ranging from 55.02 to 106.68. Under Philippine conditions, the indexes obtained are not low but comparable to that of Dickerson.

636.4.082.4

Swine - Performance records.

245. Reproductive performance of swine under commercial farming conditions. V. G. Argañosa, R. B. Puyaoan and P. F. Alcantara. *Philippine Agriculturist*, Oct.-Nov. 1969, v.53, nos.5-6, p.246-253. tables. 13 refs.

The production record of 1153 sows and gilts was studied. The 305 gilts first mated at an average age of 277.4 days, had their conception at 307.6

days old and farrowed at an average of 421 days. The average number of days between any two farrowings was 178.3, whereas, the average gestation period was 113.2 days. The average interval between artificial weaning and subsequent conception was 28.9 days. The gilts needed 1.38 services/conception, while the sows needed 1.16 services. Only 69.6% of the gilts conceived after one service, whereas, 85.8% of the sows conceived after the first service.

636.4.083.1(043)

Swine houses.

246. Mortality in piglets in metal and concrete stalls. Ernesto Al. Garcia. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969, 11p. 4^l. tables. 5 refs. (Thesis. Doctor of Veterinary Medicine)

Among 7686 piglets, the percentage mortality in concrete stalls was 9.46 and in metal stalls, 5.18.

636.4.085

Swine - Feeding - Experiments.

247. The effect of feeding limited concentrate with unlimited forage on swine. Faustino S. Mensalvas and Monica V. Nañadiego (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos.1-4, p.61-68. tables. 5 refs.

Experiments on 16 Japanese Berkshire gilts and boars showed that limited concentrate feeding compared to full concentrate feeding effected better feed conversion and reduced cost

production. Weight gains and growth rate were also faster during the early period of growth, although the differences were statistically not significant. More forage was required with limited concentrate feeding.

636.4.085

Swine - Feeding - Experiments.

Swine - Feeding and feeding stuffs.

248. The effect of forage on the growth, feed consumption and carcass quality of swine. Monica V. Nañadiego and Faustino S. Mensalvas (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos. 1-4, p.69-79, 81. tables, plates. 12 refs.

Experiments on 15 grade Berkshire pigs showed that forage supplementation stimulated weight gains in pigs during the growing period and improved the muscle formation, carcass quality, and marbling of their meat. The total concentrate feed consumption, dressing percentage, backfat thickness, body length, length of hind legs, and ham circumference of the pigs were not affected.

636.5:591.13/.134(914)

Poultry - Feeding.

249. A systematic study of the nutrient requirements of poultry in the Philippines. 1. Energy and protein requirements of starting broiler chicks. M. M. Labadan and T. A. Abilay (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Agriculturist*, Dec. 1969, v.53, no.7,

p.357-370. graphs, tables. 9 refs.

Results of experiments showed that an energy to protein ration between 110 and 120 is required for maximum growth of starting broilers. A dietary energy concentration of at least 2700 M. E. kcal/kg is needed to produce optimum growth. Broilers fed with lower energy levels consumed relatively more feed. However, their total energy and protein intakes were lower than those which supported maximum growth. The feed conversion efficiencies improved as the energy level increased.

636.5:615.779(043)

636.5.083

Poultry - Feeding - Experiments.

Antibiotic feed supplements.

250. Studies on broiler production: I. The effects of tylosin and furazolidone on broilers. Nilo A. Lasanas. Dili-man, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969, 17p. 4l. tables. 8 refs. (Thesis. Doctor of Veterinary Medicine)

Observations made on 400 Dekalb Sr. chicks showed that birds given tylosin had significantly higher feed conversion efficiency than the control chicks. However, the average 7th-wk weights and mortality rates between the supplemented and control lots, were insignificant.

636.5.082 636.5.085

Feeding and feeding stuffs - Experiments.

Poultry - Egg production - Record of performance.

251. The effect of "BYME"-fermented

feedstuffs on egg production. A. B. San Juan, P. N. Ronan, G. H. Lutzre and A. G. Navarro (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.47-53. tables. 5 refs.

Experiments were conducted on 140 Star Cross White Leghorn pullets. Results showed that pullets fed with BYME-fermented feed had higher egg production than those fed with commercial laying ration. About 2.50 kg BYME-fermented feed was needed to produce 1 doz. eggs, thus cost of production is cheaper than with the commercial laying ration.

636.5.082

Poultry - Egg production - Record of performance.

252. Performance of Ghostly Pearl Single-Combed White Leghorns under Alabang conditions. D. C. Avante, F. C. Bandong and A. Layugan (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.77-81. tables.

The amount of feed needed for a 20-wk old pullet is 8.08 kg. The average monthly egg production on the hen-day basis and average feed consumption to produce 1 doz. eggs are 62.21% and 3.71 kg, respectively.

636.5.082

Poultry - Egg production - Record of performance.

253. Performance of Netherlands Single-Combed White Leghorn under Alabang

conditions. D. C. Avante, F. C. Bandong and A. B. Layugan (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.59-64.

A mean total egg production of 259.54 \pm 22.9945 obtained during their first laying years was significantly higher than that of the same breed in their home tracts.

636.5.082

Poultry - Performance records and registration.

254. Observation on the White Dominant Cornish breed under Philippine conditions. G. H. Lutzre, A. G. Navarro and P. N. Ronan (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964 (1969), v.25, nos.1-4, p.9-14. graph, tables.

The performance of 325 pullet chicks of the White Dominant Cornish breed was observed at the Alabang Poultry Station, Muntinlupa (Rizal). It was found that at 22 wks old the pullets weighed 2.5 kg which almost reached the standard of perfection of the breed. During the breeding and growing stages the average mortality was 3.9%, whereas in the laying period, 50% production was attained in the 4th mo. of lay. A fair feed conversion into eggs was in the 4th-8th mo. of production.

636.5.082

Poultry - Performance records and registration.

255. Performance of White Rock (Lawton strain) under Philippine conditions.

A. G. Navarro, P. N. Ronan and G. H. Luztre (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964 (1969), v.25, nos.1-4, p.1-8. graphs, tables.

Lawton strain easily adapted itself to local conditions and gave good performance. This strain belongs to the dual purpose type because of the good body fleshing, conformation, and high productive performance. It has an average age of sexual maturity at 5 mo. and 15 days. The average weight and total amount of feed consumed/bird at 8 wks old were 512.4 and 2026 g, respectively; at 22 wks, 2295 and 11,414 g, respectively.

636.5.082

Poultry - Feeding - Experiments.

Antibiotic feed supplements -

Erythromycin.

256. Preliminary investigation on the effect of antibiotics mixed in the water during incubation to hatchability of eggs and performance of the chicks.

P. N. Ronan, F. C. Bandong, G. H. Luztre and A. G. Navarro (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos.1-4, p.55-59. tables. 3 refs.

A total of 700 White Leghorn selected hatching eggs were used in the study. Results showed that the Gallimycin-treatment of the water humidifier effected highest hatchability (85.7%), although it had no effect on fertility. The antibiotic also had no apparent effect on the weight and mortality rate was low (12.04%).

636.5.082.4

Poultry - Embryology.

257. Heavier broiler chicks through embryonic selection. Marciano D. Yanga, Teodoro C. Tria and Domingo T. Tolentino. *Araneta Journal of Agriculture*, Oct.-Dec. 1969, v.16, no.4, p.240-253. tables, illus. 9 refs.

Results of the study conducted by the Institute of Animal Husbandry, Araneta University Foundation, Malabon (Rizal) showed that: 1) big eggs have bigger embryonic development than the eggs with small or late-developed embryos; 2) big embryos have lower embryonic mortality than either the small or the late-developed embryos; 3) chicks hatched early from eggs with big embryos; and 4) the difference in average weight of chicks hatched from eggs with big embryos and that with small embryos was 1.24 g.

636.5.083(043)

Poultry coccidiosis - Therapy.

Coccidiostats.

258. Evaluation of the coccidiostatic effect of Amprol plus, NF-180, and Zoamix on broiler chicks raised in deep litter. Jose A. C. Alcarde. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3 ℓ . 16p. 7 ℓ . tables. 12 refs. (Thesis. Doctor of Veterinary Medicine)

"Amprol plus" significantly lowered mortality rate than either "NF-180" or "Zoamix". Also, the coccidiostats promoted significantly better feed conversion rates and average liveweight than chicks not given coccidiostat.

636.5.083.1

Poultry houses.

259. A comparative study of four kinds of roofing materials for poultry houses. T. M. Capulong, P. B. Agcanas, A. B. Layugan and A. M. Lioanag (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos. 1-4, p.83-87. tables. 2 refs.

The suitability of corrugated galvanized iron sheets, Externit, Reynolds aluminum and nipa roofing materials was studied. Results showed that nipa-roofed house was the coolest while the Reynolds roofing was the hottest. The average hen-day production was not influenced by the kind of roofing materials. However, the amount and cost of feeds to produce a dozen eggs were slightly more in a cooler house than in a moderate warm house. Also, the percentage of mortality was higher in warmer room temperature.

636.5.085

Poultry - Feeding - Experiments.

260. The effect of Estrone on broiler chicks. Pablo B. Agcanas (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos.1-4, p.29-33. tables. 4 refs.

Experiments on 300 day-old White Dominant Cornish chicks revealed that Estrone (diethylstilbestrol) had no significant effect on growth. Also, treated birds had more pronounced fat deposition, although they were smaller but more compact in body conformation.

636.5.085

Poultry - Feeding.

261. Vitamin A supplementation of chick rations: its relation to roup and coccidiosis and chick resistance. A. B. San Juan, C. C. Damaso and P. B. Agcanas (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964 (1969), v.25, nos.1-4, p.17-23. tables. 20 refs.

Experiments conducted on White Leghorn chicks showed that the addition of Rovimix AD₃ in yellow corn ration promoted the heaviest weight gain and fastest growth rate. No incidence of roup was noted.

636.5.087(043)

Poultry - Feeding - Experiments.
Arsanilic acid.

262. Studies on broiler production: II. The effects of arsanilic acid on broilers. Pedrito F. Reyes. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3ℓ. 19p. tables. 15 refs. (Thesis: Doctor of Veterinary Medicine)

Arsanilic acid mixed with the feeds at 90 g/ton, given to 1024 Cobb broilers, significantly increased the average market weight as well as the feed conversion efficiency and decreased mortality rate.

636.5.089(043)

Poultry - Diseases and pests.
Plasmodium juxtannucleare.

263. Pathologic findings in chickens

experimentally infected with Plasmodium juxtanucleare. Elizabeth G. Zerrudo. Diliman, Quezon City, College of Veterinary Medicine, University of the Philippines, Oct. 1969. 3 $\frac{1}{2}$. 25p. plates. 14 refs. (Thesis. Doctor of Veterinary Medicine)

Hydropericardium and splenomegally were observed in the experimentally infected birds besides other abnormalities such as: 1) mononuclear cell infiltrates with lymphocytes and macrophages in most organs except the nervous system, testes and skeletal muscles; 2) reticuloendothelial cells hyperplasia of the spleen; 3) edema in the heart; and 4) slight interstitial myocarditis. Exo-erythrocytic forms of *P. juxtanucleare* were found near the mononuclear cell infiltrates in the lungs, proventriculus in the cytoplasm of reticular cells of the spleen, and the Kupffer cells of the liver.

636.58:591.39

Eggs - Hatchability.

264. Hatchability of eggs under three different storage environments. Pablo B. Agcanas (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964 (1969), v.25, nos.1-4, p.25-27. table. 8 refs.

A total of 476 S. C. White Leghorn hatching eggs were used in the study. Results showed that eggs stored in refrigeration had prolonged hatchability. The percentage hatchability of eggs refrigerated for 10 days was as high as that of eggs held for 5 days in air-conditioned room. Refrigeration as a means of holding hatching eggs did

not entirely prevent the normal decline in hatchability due to increased age of eggs.

636.58:591.39

Eggs - Hatchability.

265. The hatchability of S. C. White Leghorn eggs stored in plastic bags. Pablo B. Agcanas (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.33-37. tables. 6 refs.

Studies showed that the hatchability of eggs stored in plastic bags was improved and was higher than that of eggs held on plastic flats at refrigeration temp. of 50°F.

636.58:591.39

Eggs - Hatchability.

266. The incubation performance of imported White Leghorn (Ghostley pearl), White Rock (Lawton) and White Dominant Cornish (Garrison) at the Alabang Poultry Station. G. H. Lutzre, A. B. Layugan, A. G. Navarro, F. C. Bandong, P. N. Ronan and D. Avante (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry*, First-Fourth Quarter 1964(1969), v.25, nos.1-4, p.35-45. graphs, tables. 7 refs.

Of the 3 breeds studied, White Cornish had the most inferior incubation performance and the lowest average fertility. The average percent hatchability based on fertile eggs was 73.7% for White Leghorn, 77.2% for White Rock, and 73% for White Cornish.

637.13

Milk - Care and handling.

267. **Specific recommendations for the establishment of a milk collection scheme.** F. P. Vergara (Instructor, College of Agriculture, University of the Philippines, College, Laguna). *Better Poultry and Livestock*, Nov. 1969, v.11, no.3, p.44-54.

The following recommendations for the establishment of a milk collection scheme are discussed: 1) market assurance; 2) 10 or bigger size of milking herd; 3) clean and safe milking centers; 4) cooler cooling unit; 5) delivery van for the efficient delivery of milk; and 6) skilled and interested milkers to insure sanitary procedures of milking.

637.17:637.127

Milk, Carabaos' - Composition.

268. **Carabao milk: V. A study of its various fat constants.** R. T. David and C. L. Davide. *Philippine Agriculturist*, Oct.-Nov. 1969, v.53, nos.5-6, p. 229-237. tables. 18 refs.

Milk samples from the Los Baños Milk Collection Scheme of the Dairy Training and Research Institute in College (Laguna) were analysed according to the Association of Official Agricultural Chemists (1960) methods. The following data were obtained: free fatty acid number, 1.117; iodine number, 39.672; saponification number, 213.654; and sp. gr. at 25°C, 0.9196.

637.174:637.127

636.39:591.11:612.392

Milk, Goats'

Blood - Mineral Content - Goat.

269. **Calcium and phosphorus contents of blood and milk of goats during the lactation period.** R. G. Zamora and C. L. Davide. *Philippine Agriculturist*, Oct.-Nov. 1969, v.53, nos.5-6, p.238-245. table. 10 refs.

The relation between Ca and P contents in blood serum and milk was determined in 11 Saanen grade does. It was noted that the Ca content in the blood serum and that in the milk were positively correlated. P content in the blood serum was not related to that in the milk. The average Ca content in the milk was 139.4 mg/100 g milk and that in the blood serum was 41.9 mg/100 g blood serum; for P the average values in milk and blood were 121 mg and 17.5 mg/100 g, respectively.

637.352(914)

Cheese making - Philippine native cheese.

270. **Native cheese in the Philippines.** T. A. Dulay and M. G. O'Keefe (Instructor and FAO Dairy Technologists, respectively, Dairy Training and Research Institute, College, Laguna). *Agricultural and Industrial Life*, Aug. 1969, v.31, no.8, p.10, 16.

The native cheese made mainly from carabao's milk using locally made rennet and vinegar can be improved using commercial rennet and pasteurized milk. The procedure recommended is outlined. Cheese yield from carabao's milk is about 45-55% and 18-25% from cow's milk

after 6-10 hrs draining time.

637.352:637.32

Cheese making - Cottage cheese.

271. Native cheese gives high income.

Cynthia D. Taguiamon (College of Agriculture, University of the Philippines, College, Laguna). *Philippine Farmers' Journal*, Fourth Quarter 1969, v.11, no.4, p.7, 13.

Analysis of the native cheese processed showed that a 4 x 4 x 1 cm size gives 89 cal, 4 g protein, 7.5 g fat, 1.6 g carbohydrates, 97 mg Ca, 50 mg P, 790 mg Na, 1627 mg K, and traces of thiamine, riboflavin, and niacin.

DOMESTIC SCIENCE

641.88:635.65.001.5

Sauces. Soybean sauce.

272. Studies on the preparation of "soy" sauce from coconut paring meal.

Mercedes Soriano, Olympia N. Gonzalez and Elvira Avelino (FRL, National Institute of Science and Technology, Manila). *Philippine Journal of Science*, June 1967(1969), v.96, no.2, p.129-137. tables. 12 refs.

Sauces prepared by the acid and mold-enzyme hydrolysis methods using coconut paring meal, soybeans, and combinations of paring meal and soybeans in varying proportions were analyzed for pH, acidity, sodium chloride, specific gravity, nitrogen and total solids. Results showed that the acid hydrolysates gave higher specific gravity, more total solids and higher optical densities than the mold-enzyme hydrolysates. Hydrolysates prepared from

soybeans alone had the highest nitrogen content. Organoleptic tests showed that acid hydrolysates prepared from 2 parts of paring meal and 1 part soybean and from equal parts of paring meal and soybean were most preferred in flavor and aroma. The least rated sauces were those prepared from soybean alone and enzyme hydrolysates from 1 part paring meal and 2 parts soybean meal. However, enzyme hydrolysate prepared from 2:1 paring meal and soybean was most preferred in flavor and aroma.

CHEMICAL AND ALLIED INDUSTRIES

661.731.002.2

Acetic acid - Manufacture.

Acetobacter.

273. A study on an acetic acid-forming bacterial isolate and factors influencing its growth and production of acetic acid or vinegar from alcoholic medium. Leticia M. Maceda and Macario A. Palo (National Institute of Science and Technology, Manila). *Philippine Journal of Science*, June 1967(1969), v.96, no.2, p.111-127. plates, tables. 12 refs.

One hundred fifteen isolates derived from rotting ripe sugary fruits, palm saps, and raw vinegar were screened for acetic acid production. Of the 8 strains capable of producing more than 3% acetic acid from 6% ethyl alcohol in Janke's medium, Isolate 67-B from a rotting mabolo (*Diospyros discolor* Willd.) fruit was the best. The acetic acid-producing efficiencies of 54.34 and 55.19% in 8% ethyl alcohol obtained in Janke's and in yeast-fermented ba-

nana media, respectively, were high. However, the highest acetic production was obtained in 10% ethyl alcohol in both media. The mabolo bacterium was identified as *Acetobacter rancens* (Beijerinck) var. *turbidans* Frateur. The optimal conditions for the growth and production of acetic acid are pH 5, temperature of 28°-32°C, nitrogen requirements, cool temperatures, and sunlight.

663.1:634.75

Yeasts. *Rhodotorula pilimanae*.

274. Studies on the possible toxic effects of strawberry yeast. Cristobal L. Miranda (FNRC, National Institute of Science & Technology, Manila). *Philippine Journal of Science*, Sept. 1967 (1969), v.96, no.3, p.295-304. tables. 6 refs.

Strawberry yeast added to an adequate diet at levels of 3, 6, 9, 12, and 21% was fed to experimental albino rats to determine its toxic effects. The criteria for evaluating the response of the animals to the test material are given. No changes were observed in any of the test groups which would indicate a difference in response from that of the controls. No toxic or adverse effect may be expected from the proposed use of yeast in the human diet.

663.3

Wine and wine making.

275. Effect of coconut water on wine production from wild banana (*Musa balbisiana* var. *botoan*). Lourdes del Rosario and Ignacio S. Pablo. *Philippine*

Educational Forum, Oct. 1969, v.18, no.2, p.28-34. table. 8 refs.

The addition of 25% coconut water to the banana mash imparted better color and aroma, while 40% coconut water added to pasteurized mash imparted better flavor. The addition of $K_2S_2O_5$ to the mash inhibited the growth of undesirable microorganisms, thus higher alcohol yield was obtained than in the pasteurized mash. The addition of 200 p.p.m. $K_2S_2O_5$ is highly recommended.

664.27

Vegetables, Starchy. Caramel.

276. The suitability of five starchy vegetables in the preparation of "pastillas". Zenitha G. Lacusong and Benedicta M. Medina. *CLSU Scientific Journal*, Oct.-Dec. 1969, v.5, no.2, p.59-64. table. 8 refs.

The starchy vegetables used in the study were camote (*Ipomoea batatas* L.), cassava (*Manihot esculenta*, Crantz), gabi (*Colocasia esculentum* L.), squash (*Cucurbita maxima*, Duchnese) and ubi (*Dioscorea alata* L.). Results showed that "pastillas" made from camote and ubi starches were the most desirable in terms of palatability and texture.

664.31:633.18:66.094.3(914)

Ozonolysis. Rice oil.

277. The ozonolysis of Philippine unsaturated oils. I. Rice-bran oil. Violeta P. Arida, Florecilla C. Borlaza (IRC, National Institute of Science and Technology, Manila) and William J. Schmitt (Ateneo de Manila University, Quezon City). *Philippine Journal of Science*, Sept. 1967(1969), v.96, no.3, p.249-252. table.

Dewaxed rice-bran oil was ozonized

in a hexane-ethanol solvent giving intermediates which are hydrolyzed and oxidized with dilute nitric acid. A good commercial grade of azelaic acid was isolated as the major product in yields of 10-25%.

664.5.002.2
Sauces.

278. The manufacture of sauce. Luz Baens-Arcega. Manila, National Institute of Science and Technology, July 1969. 12p. 13 refs. (Technical bulletin no.9)

The manufacture of fish and soy sauces are briefly discussed. Studies conducted by the National Institute of Science and Technology (Manila) on fish sauce manufacture showed that fish digestion maybe acceleratated and hydrolysis maybe completed in only 1 wk under controlled conditions. Also *Stelephorus* sp. and *Decapterus macresoma* fish species gave quality tasting sauces.

In the manufacture of soy sauce, the optimum temp. for protease production is 22-27°C, for a Philippine strain of *Aspergillus oryzae*, depending upon the medium used for growing the mold.

664.85
Fruit - Preservation.
Mangoes.

279. Effect of citric acid and sulfite treatment on the quality of candied mango halves. Encarnacion C. Mercado, Olympia N. Gonzalez and Ignacio S. Pablo. *Philippine Educational Forum*, Oct. 1969, v.18, no.2, p.35-43. tables. 11 refs.

Studies showed that the addition of 0.055% $\text{Na}_2\text{S}_2\text{O}_5$ in the syrup used in the candying process improved markedly the

organoleptic properties of candied mango. Treatment with citric acid imparted a brownish discoloration during the process.

It is recommended that further studies be conducted on the dehydration technique and storage behavior of mango, and the economic feasibility of the candying process.

664.85:036.5:613.22
Infant foods, Canned.

280. Development of prepared baby foods from local materials. I. Strained fruit purees. Ceferina G. Marfori, Rosario G. Liggayu and Olympia Gonzalez. Manila, National Institute of Science and Technology, July 1969. 15p. tables. 12 refs. (Technical bulletin no.8)

Three canned fruitblends of strained papaya with either pineapple juice, guava juice or soursop juice were developed after a series of trials and organoleptic testing. Results of bacteriological examination indicated that the fruit purees stored for 3 mo. were free from viable organisms. Chemical analysis showed that their proximate composition, except crude fiber, compared favorably with that of imported baby fruit purees. The ascorbic acid and Ca contents were comparatively high. The papaya-pineapple blend was the most preferred among infants.

665.353.6:577.16
Coconut oil. Tocopherols.

281. Tocopherol content of coconut oil at various stages of processing. Guillermina C. Mañalac and Anita Harder-Soliven (IRC, National Institute of Science and Technology, Manila). *Philippine Journal of Science*, Sept. 1967

(1969), v.96, no.3, p.239-248. graphs, tables. 9 refs.

Studies showed that the deodorization and alkali refining processes accounted for the main loss of tocopherol in edible coconut oil. However this can be avoided through improved method of drying the coconut meat.

666.1.037:621.32

Glass blowing and working. Electric lamps, Fluorescent.

282. Glass blowing for educational and research laboratories. Pt. IV. The fusibility and connectibility of fluorescent lamp glasses. William Bruell (Chemistry Dept., University of San Carlos, Cebu City). *Philippine Scientist*, ser. F, 1969, v.6, p.75-85. tables, illus.

Fusibility test showed that LR glass, R6 glass, X-glass (fluorescent lamp), Philips, Westinghouse, and General Electric are the easiest fusing glasses, whereas, Pemco and AR glasses are the hardest fusing glasses. Based on the method developed and described, R6 (Exax) glass can be connected to any of the Philips, Westinghouse, Pemco, and General Electric fluorescent light glasses. The LR glass is best connected to Philips glass: AR glass, to Pemco.

667.52

Ink.

283. Printing inks from local raw materials. Simeona S. Tanchico and Eladia S. Borja. Manila, National Institute of Science and Technology, July 1969. 10p. 4 refs. (Technical bulletin no.10)

Studies conducted by the National Institute of Science and Technology (NIST) Manila, revealed that Manila

copal and lumbang oil are good substitutes for the imported synthetic type resins and linseed oil commonly used in the printing ink industry. Baguilm-bang oil, castor oil (dehydrated), soybean oil, cashew nut oil, indigo, elemi, colophony and turpinetine are also possible raw materials for printing inks. A new ink formulation developed by NIST consisting of almaciga and lumbang oil was found to compare favorably with the standards as to film and consistency. Also, it was fast drying, but is easily removed from the types with kerosene or gasoline.

WOODWORK AND TIMBER INDUSTRY

674-41.04

Lumber - Drying. Wood - Defects.

284. Economic losses due to seasoning degrade. Ricardo F. Casin. *Wood Preservation Report* (Forest Products Research & Industries Development Commission, College, Laguna), Nov.-Dec. 1969, v.4, no.6, p.2-6. 10 refs.

Some losses due to seasoning defects are unavoidable due to the inherent characteristics of the lumber and to seasoning practices which vary from mill to mill. The main types of seasoning defects that cause degrade are checking and warping which are directly associated with shrinkage. Good stacking practices and proper kiln operation are effective measures in cutting down degrade:

674.7.04

Wood - Decay. Wood - Chemical treatment.

285. Decay caused by soft-rot fungi in power-line and telecommunication poles in service. Mario A. Eusebio. *Wood*

Preservation Report (Forest Products - Research & Industries Development Commission, College, Laguna), Nov.-Dec. 1969, v.4, no.6, p.12-14.

A random inspection of treated poles in service in the Manila area and suburbs indicated that soft-rot decay was present in the groundline area in at least 50% of the poles inspected. Macroscopic and microscopic detections were made to recognize the presence of soft-rot type of decay. Groundline treatments included fluoride creosote, pentagel and fluoride-arsenic paste injection.

674.7.04

Dipterocarpaceae.

Wood-creosote oil.

286. Service records of commercially creosoted apitong poles in telecommunication and power lines. Arnaldo P. Mosteiro. *Wood Preservation Report (Forest Products Research & Industries Development Commission, College, Laguna), July-Aug. 1969, v.4, no.4, p.1-6. tables. 1 ref.*

The condition of 693 commercially creosoted apitong (*Dipterocarpus* sp.) poles were still sound and in good condition with no sign of termite or fungal infestations after 3-11 yrs in service. Some poles had a few cracks, top-end-splits and slight surface checks. Bleeding of creosote was observed.

LEATHER INDUSTRY

675.02:633.87 633.87:675.02

Tanning materials. Tanbarks.

287. Preliminary investigation of some

local tanbarks for tanning materials. Josefina R. Filamor (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.39-45. table. 4 refs.*

The tanning characteristics of 4 local barks namely, bakawan (*Rhizophora candelaria*), tabigin (*Xylocarpus granatum*), pine (*Pinus insularis*) and ipil-ipil (*Leucaena glauca*) were tested on carabao hide, cow hide and goatskins. The results proved encouraging.

675.03.02:636.39

Tanning.

288. Chrome tanning of goatskins with hair-on. Romualdo L. Lozano (Bureau of Animal Industry, Manila). *Philippine Journal of Animal Industry, First-Fourth Quarter 1965(1969), v.26, nos.1-4, p.65-70. 2 refs.*

A method of hair-on tanning for beginners is outlined in detail. Experiments on goatskins with hair-on, revealed that the skin pickled in H_2SO_4 and fat-liquored with sulfonated whale oil was softer and had no squeaking sound when crumpled unlike the skin pickled in alum and fat-liquored with Lipamin liquor. The process of tanning took about 9 days but this can be shorter depending upon the raw material and timing of the process.

675.03.02:636.39

Tanning. Tanbarks.

289. Tanning of goatskin for morocco leather with the use of local tanbarks. Josefina R. Filamor, Lourdes J. Donato, Romualdo Lozano and Horacio O. Teehan-

kee. *Philippine Journal of Animal Industry*, First-Fourth Quarter 1965 (1969), v.26, nos.1-4, p.55-58. tables. 9 refs.

Leather tanned with mimosa-myrtan blend was better than that tanned with "camachile-bakawan" blend. Thus, local barks can substitute expensive imported extracts in the production of morocco leather.

VARIOUS INDUSTRIES

677.181:66.094.7(043)

Coconut coir. Delignification.

290. **Studies on delignification of coconut coir.** Efren A. Micor. Manila, Graduate School, University of Santo Tomas, Feb. 1969. vi, 100p. graphs, tables, illus. 44 refs. (Thesis. Master of Science, Major in Chemistry)

The study was undertaken to determine the favorable conditions of delignification of coconut coir using sodium chlorite, sodium hydroxide and sodium sulfite at different concentrations and temperatures (95-98°C). About 70% lignin was separated by treating with 3% sodium chlorite for 3 hrs. Treatment with 1, 3 and 9% sodium hydroxide as well as sodium sulfite for 2-3 hrs increased the tensile strength of the coir fiber.

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 Agriculture at Los Baños
 Araneta Journal of Agriculture
 Better Poultry and Livestock
 BAI Recorder
 Bureau of Forestry
 Research Note
 Bureau of Mines
 Report of Investigation
 CLSU Scientific Journal
 CMU Journal of Science and
 Technology
 Chemists' Quarterly
 Family Physician
 Forest Products Research & Industries
 Development Commission
 Technical Note
 IRRI Reporter
 Journal of the Geological Society
 of the Philippines
 Journal of the Philippine Medical
 Association
 Journal of Philippine Medical
 Women's Association
 MIT Research Journal
 National Institute of Science and
 Technology
 Technical Bulletin
 Philippine Agriculturist
 Philippine Architecture, Engineering
 & Construction Record
 Philippine Atomic Energy Commission
 Publications [PAEC (D) 691, 693]
 Philippine Biota
 Philippine Educational Forum
 Philippine Farmer's Journal
 Philippine Farms & Gardens
 Philippine Journal of Animal Industry
 Philippine Journal of Home Economics
 Philippine Journal of Leprosy
 Philippine Journal of Nutrition

Philippine Journal of Ophthalmology and
 Otolaryngology
 Philippine Journal of Pediatrics
 Philippine Journal of Plant Industry
 Philippine Journal of Science
 Philippine Journal of Surgical
 Specialties
 Philippine Mining Journal
 Philippine Mining Record
 Philippine Scientist
 Philippine Statistician
 Proceedings of the National Science
 and Technology Week
 Reforestation Monthly
 Santo Tomas Journal of Medicine
 Science Bulletin of the Science
 Foundation of the Philippines
 Science for Schools
 Science Review
 Silliman Journal
 Standards Journal
 Sugar News
 Sugarland
 U.P. Veterinarian
 Wood Preservation Report (Forest Products
 Research & Industries
 Development Commission)

B. OTHER PUBLICATIONS (UNPUBLISHED)

Scientific Papers
 National Science and Technology Week
 Symposium
 Special Problems
 Araneta University Foundation
 Theses
 Araneta University Foundation
 Institute of Agriculture
 Institute of Graduate Studies
 and Applied Research
 Philippine Women's University
 Graduate School
 University of the Philippines
 College of Veterinary Medicine
 University of Santo Tomas
 Graduate School